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Remarks

Claims 1, 33, and 37 are pending. Claims 2-32, 34-36, and 38 were cancelled in the previous Amendment. By this amendment, claims 39-41 are cancelled and independent claims 1, 33, and 37 are amended to clarify these claims. No new matter is added.

Claims Designations

The applicant's attorney apologizes for the typographical errors with respect to the claim designations and status identification in the previous Amendment. The current designations and status identifiers are correct.

Section 112

With the cancellation of dependent claim 41, this objection is moot.

Double Patenting

The applicants respectfully disagree with the arguments set forth for double patenting over Gonser for the reasons set forth below; however, in the event that the claims are indicated as otherwise in condition for allowance except for the double patenting rejection and the rejection over Stangel et al., the applicants will submit a terminal disclaimer in order to advance the prosecution of this case.

Section 102

Remaining claims 1, 33 and 37 stand rejected as anticipated under 102(e) by Stangel et al. In the event that the claims are indicated as otherwise in condition for allowance except for the double patenting rejection and the rejection over Stangel et al., the applicants will submit the required documentation to provoke an interference with Stangel et al. As support for the prima facie case of interference in this case, it is noted that the provisional application 60/099,654 to which Stangel claims priority lists Dr. Marc Seghatol as one of the inventors for that provisional application, even though Dr. Stangel was omitted from the declaration for the Stangel utility patent application.

Section 103

Claims 1, 33 and 37 stand rejected as obvious over Podzun in view of Gonzer and Lee. This rejection is respectfully traversed.

While it may be that prior art techniques for curing dental polymer materials have used either microwave energy extra-orally by an oven (Lee) or ultraviolet light energy intra-orally by a hand-held device (Gonzer), there is nothing in the prior art which teaches or suggests the intra-oral application of microwave energy to dental curable polymer materials by a hand-held device. It is respectfully submitted that there is nothing in the rejection which establishes a *prima facie* case of obviousness over the combination of cited references without the impermissible use of the hindsight afforded by the teachings of the present application.

The polymers as described in Example 6 by Podzun are described as being "polymerized at 140° C under 200 bar in the course of 10 minutes." (Col. 24, Lines 4-6.) Plainly, polymerization at these temperatures, pressures and times are simply medically unsuitable, if not impossible to create, in an intra-oral environment in the mouth of actual patients. The only other kinds of polymers described by Podzun would be photo-initiated polymers as described in Columns 21 and 22 of Podzun. These photo-initiated polymers are described as including ultraviolet (UV) initiators and stabilizers in the chemical formulations.

Accordingly, Podzun describes no more than the general state of the prior art of two different kinds of curable polymers for dental application. The first kind of dental polymers are heat-initiated curing polymers exclusively cured in an extra-oral environment, such as a water bath or conventional microwave ovens, typically at higher temperatures and sometimes higher pressures for relatively long periods of time. These extra-oral conditions are simply unsuitable for use in an intra-oral application. The second kind of dental polymers are photo-initiator curing polymers typically cured in an intra-oral environment by using, for example, a hand-held device that emits UV lights that can be directed into the mouth of a patient.

Lee is cited in the Office Action as purportedly teaching both microwave and light-initiated curing of dental polymers. The citation to the background section of Lee (Col. 1, Lines 1-15), however, does not support this proposition. On the contrary, the curing described in Lee is specifically directed to the "use of *dielectric heating* [that] is broadly known in the prior art and includes the various electromagnetic phenomena, such as electric currents, radio waves, infrared rays and light." (Lee, Col. 1, Lines 10-13). It is respectfully submitted that a person skilled in the art would immediately recognize the difference between the dielectric heating to cure polymers that is taught by Lee and the UV light-initiated curing of polymers that is the subject of the hand-held device described by Gonser. In fact, all six of the examples of curing polymers described by Lee specifically reference the use of "a commercial microwave oven at one kilowatt power supply," whereas there are absolutely no examples of the curing of dental polymers by any form of photo-initiated methods. (Lee, Cols. 5-7). Accordingly, the assertion in the Office Action that "the use of various energies for curing are well known" and therefore it would have been obvious to combine references directed to the two completely different kinds of heat-initiated polymers and light-initiated polymers is simply not a supportable assertion.

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Conclusion

Please enter the amendments above and reconsider the application in light of the amendments and remarks. The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Please note that this paper, and all others filed contemporaneously with it, are filed pursuant to representative capacity as specified in 37 CFR § 1.34, pending formal substitution of attorneys, which shall occur at the earliest opportunity with every intent to avoid delays in prosecution on the merits.

Sincerely,



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